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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,881	02/08/2001	Tin Cheung Wong	12027-0002	6685

7590 02/13/2003

CLARK & BRODY
Suite 600
1750 K Street, NW
Washington, DC 20006

EXAMINER

WOO, ISAAC M

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,881

Applicant(s)

WONG, TIN CHEUNG

Examiner

Isaac M Woo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virgil et al (U.S. Patent No. 5,493,670, hereinafter, "Virgil").

With respect to claim 1, Virgil discloses the method in a computer automated data processing system for, see (col. 1, lines 5-10), identification, management and retrieval of engineering drawings in digital format (col. 2, lines 5-15) wherein all the digital data is analysed by the central processing unit in accordance with predefined algorithms (col. 1, lines 65-67 to col. 2, lines 1-24) to identify individual engineering drawings (col. 4, lines 15-67 to col. 1-5) and specific information contained within each the drawing and wherein the specific information (col. 3, lines 32-67 to col. 4, lines 1-67) may be stored in accordance with predefined criteria in a suitable storage means (col. 1, lines 65-67 to col. 2, lines 1-24) and wherein each drawing may be identified and located to search the storage means against the predefined criteria, see (col. 3, lines 3-

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67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67). Virgil does not explicitly disclose an appropriate search engine. However, Virgil discloses the SQL (Structured Query Language), (FIG. 3, FIG. 4b), which is an industry-standard language for creating, updating and, querying (searching) relational database management systems. Therefore, it would have been obvious a person having ordinary skill in the art the time invention was made to include the appropriate search engine (SQL) into the system of Virgil to query on database. The first SQL standard, in 1986, provided basic language constructs for defining and manipulating tables of data on database; a revision in 1989 added language extensions for referential integrity and generalized integrity constraints. Another revision in 1992 provided facilities for schema manipulation and data administration, as well as substantial enhancements for data definition and data manipulation for searching. Thus, in order to get specific information or data from database, the SQL is commonly used to retrieve the information or data as the search engine.

With respect to claim 2, Virgil discloses that the digital data is analysed by the central processing unit in accordance with predefined algorithms to identifying the boundary of each individual engineering drawing, see (col. 4, lines 26-67 to col. 5, lines 1-65, col. 9, lines 57-67 to col. 10, lines 1-50).

With respect to claim 3, Virgil discloses that the digital data is analysed by the central processing unit in accordance with predefined algorithms to identify textual

information contained within each individual engineering drawing, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67, col. 5, lines 5-67 to col. 6, lines 1-60).

With respect to claim 4, Virgil discloses that the digital data is analysed by the central processing unit in accordance with predefined algorithms to identify a series of discrete boxes in an orderly arrangement containing textual content, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67).

With respect to claim 5, Virgil discloses that the textual information contained within each engineering drawing may be stored in accordance with predefined criteria in a suitable storage means to enable the engineering drawing to be identified by reference to the textual information, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67, col. 5, lines 5-67 to col. 6, lines 1-60).

With respect to claim 6, Virgil discloses that the central processing unit analyses the textual information contained within each individual text box in accordance with predefined algorithms to identify predefined keywords within the text boxes and wherein if such keywords are identified within the text boxes the central processing unit further analyses the data contained within the text box to ascertain whether further textual information is contained within the text box and wherein if further textual information is located within the text box the further textual information contained within each

individual text box may be stored in accordance with predefined criteria in a suitable storage means to enable the engineering drawing to be identified by reference to the textual information, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67, col. 5, lines 5-67 to col. 6, lines 1-60).

With respect to claim 7, Virgil discloses that the engineering drawings stored in the storage means may be located, retrieved and displayed on a suitable display means by reference to the exact textual information sought and wherein the textual information maybe readily identified by suitable means such as highlighting, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67, col. 5, lines 5-67 to col. 6, lines 1-60).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Heilper et al (U.S. Patent No. 6,014,450) discloses the system for address indicia on digitized images of mail pieces by dividing the mail piece images into blocks; identifying rows of blocks that are adjacent along a first direction and that have similar defined image features by comparing such image features within adjacent blocks; assembling at least some of the identified rows of blocks that are adjacent along a second direction perpendicular to the first direction into address block candidate

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regions; and selecting the address block by scoring the various address block candidate regions on the basis of defined criteria. The criteria initially score the candidate regions based on closeness to the center of the rectangle and then reduce this initial score if an edge of the region is close to an edge of the image, the region contains a small or very high number of text rows, or the aspect ratio between the width and height of the region is high. This provides an Address Block Location (ABL) technique which is capable of being implemented for real time operation on presently available general purpose computers.

Chhabra et al (U.S. Patent No. 5,923,782) discloses the system for detecting horizontal and vertical lines of an encoded run length image to identify cells of the image that are formed by the lines. Initially, the method comprises the steps of filtering excess details, such as text, from the image and grouping a portion of the image for analysis. A top profile of the image is generated and, then, points along the top profile are determined where substantial changes in the profile position occur. A horizontal section of the top profile which corresponds to a line completely visible from the top is then extracted from between the points. By repeating the above steps, each horizontal line of the image is detected and extracted from the image. In addition, in order to detect the vertical lines of the image, the image is simply rotated 90.degree. and processed with the vertical lines being positioned horizontally. By identifying the horizontal and vertical lines of the image, the cells of the original image may be identified, and the contents of each cell may be processed by optical character recognition techniques and the like.

Syeda-Mahmood disclose the system for image indexing for the domain of technical manual documents depicting line drawing images of physical equipment. Such line drawings are often associated with text labels that indicate references to component parts in an associated table. The indexing system locates regions containing a machine part in relevant pages of the manual in response to a query describing the part. The query supplied by the user is a textual description of the machine part from which an associated geometric description of the object is retrieved. The indexing mechanism includes two stages, i.e., selection and recognition. The selection phase involves isolating relevant images from the document database using a combination to textual and visual processing and indicating the appropriate regions within those images that are likely to contain the queried machine part. Model-based object recognition then confirms the presence of the part at that location by finding a match of features between the part and the model using a 3D model description associated with the textual query.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac M Woo whose telephone number is (703) 305-0081. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

IMW
February 6, 2003



SHAHID AL ALAM
PATENT EXAMINER